UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,460	04/19/2001	Yoshiyuki Nitta	206346US-2	6752

22850 7590 11/09/2004

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
CHU, GABRIEL L	

ART UNIT	PAPER NUMBER
2114	

DATE MAILED: 11/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/837,460	NITTA, YOSHIYUKI	
	Examiner	Art Unit	
	Gabriel L. Chu	2114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 August 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *6,10 and 11* is/are allowed.

6)☒ Claim(s) *1 and 4* is/are rejected.

7)☒ Claim(s) *2,3,5 and 7-9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

STATUS OF CLAIMS

1. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by US 6473396 to Kumar.

2. Claim 4 is rejected under 35 U.S.C. 102(b) as being anticipated by US 5975738 to DeKoning et al.

3. Claims 2, 3, 5, 7, and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claim 9 is objected to as having non-statutory subject matter but would be allowed if amended as suggested below.

5. Claims 6, 10, and 11 are allowed.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 9 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 9 is directed to a storage medium comprising means which is construed as storing computer instructions per se. In order to overcome this rejection, the claim must be amended to include language that states that this is a computer readable medium storing computer executable instructions, that when executed cause a computer to perform the functionality claimed.

Claim Objections

7. Claim 2 is objected to because of the following informalities: On indent 2 of page 4, "the address" is understood to refer to "the same address". On indent 4 of page 4, "the means for judging" is understood to refer to "the first means for judging". Appropriate correction is required.

Claim Rejections - 35 USC § 102

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by US 6473396 to Kumar. Referring to claim 1, Kumar discloses a field apparatus control system for controlling a field apparatus connected to a field bus, comprising: frst and second main control units configured to control the field apparatus (From line 8 of column 3, "The apparatus may comprise a bus on which a plurality of server modules may be coupled to. One of the server modules may be configured to be active and remaining server modules may be configured to be on standby. A plurality of client modules may be coupled to the bus and configured to be in communication with the active server module using logical addresses."); and first and second communication control units configured to process information communication between the first and second main control units, respectively, and the field apparatus via the field bus, wherein the first main control unit and the first communication control unit are in a normal system mode or in a standby system mode (From line 42 of column 3, "According to one example, the physical slots in which the various hardware modules are connected to, are assigned physical addresses to identify the location of the hardware modules." Further, from line 11 of

column 3, "One of the server modules may be configured to be active".), the second main control unit and the second communication control unit are in a normal system mode or in a standby system (From line 12 of column 3, "and remaining server modules may be configured to be on standby.") and each of the first and second communication control units have a same address on a network via the field bus, and wherein information outputted to the same address from the field apparatus via the field bus is received by both the first and second communication control units (From line 61 of column 4, "According to another method, packets sent by the client modules 121, 122, 123 to the active server module 101 are also routed by the active server module 101 to one of the standby modules 102. However, only the active server module 101 processes the received packets. As for the standby module 102, the received packets may be stored in a buffer on a first in first out basis. As the buffer overflows, the earlier received packets are purged.").

10. Claim 4 is rejected under 35 U.S.C. 102(b) as being anticipated by US 5975738 to DeKoning et al. Referring to claim 4, DeKoning et al. disclose a field apparatus control system for controlling normal and standby field apparatuses comprising: normal and standby field buses (From figure 1, 152.1 and 152.2.) connected to the normal and standby field apparatuses, respectively (From figure 1, 114.1, 116.1, 114.2, and 116.2), wherein said normal field bus is isolated from said standby field apparatus and said standby field bus is isolated from said normal field apparatus (From figure 1, 118.1 and 118.2.); first and second main control units configured to control the normal and standby field apparatuses (From figure 1, 112.1 and 112.2.); and first and second

communication control units configured to process information communication between each of the main control units and the normal and standby field apparatuses via the normal and standby field buses, respectively (From figure 1, 112.1 and 112.2. Further, from line 60 of column 6, "RDAC 118.1 includes CPU 112.1, program memory 114.1 (e.g., ROM/RAM devices for storing program instructions and variables for the operation of CPU 112.1), and cache memory 116.1 for storing data and control information related to the data stored in disk array 108. CPU 112.1, program memory 114.1, and cache memory 116.1 are connected via memory bus 152.1 to enable CPU 112.1 to store and retrieve information in the memory devices. RDAC 118.2 is identical to RDAC 118.1 and is comprised of CPU 112.2, program memory 114.2 and cache memory 116.2, all interconnected via memory bus 152.2. The RDACs 118.1 and 118.2 are preferably interchangeable devices within RAID subsystem 100 to permit easy replacement, including hot swap, of a defective RDAC. One of ordinary skill in the art will readily recognize that the block diagram of FIG. 1 is intended only as an exemplary design that may embody the methods and structures of the present invention. Many alternative controller and subsystem designs may embody the methods and associated apparatus and structures of the present invention."), wherein the first main control unit and the first communication control unit operate in a normal system mode, the second main control unit and the second communication control unit operate in a standby system mode (From line 38 of column 6, "The pair of RDACs 118.1 and 118.2 shown in FIG. 1 are therefore intended as suggestive of any plurality of redundant controllers."), and the first communication control unit is connected via the normal system field bus to the normal

system field apparatus so that the first communication control unit executes information communication processing between the first main control unit and the normal system field apparatus via the normal system field bus (See figure 1, 118.1. Further, from line 60 of column 6, "RDAC 118.1 includes CPU 112.1, program memory 114.1 (e.g., ROM/RAM devices for storing program instructions and variables for the operation of CPU 112.1), and cache memory 116.1 for storing data and control information related to the data stored in disk array 108. CPU 112.1, program memory 114.1, and cache memory 116.1 are connected via memory bus 152.1 to enable CPU 112.1 to store and retrieve information in the memory devices."), and wherein the second communication control unit is connected via the standby system field bus to the standby system field apparatus so that the second communication control unit executes information communication processing between the second main control unit and the standby system field apparatus via the standby system field bus (From figure 1, 118.2. Further, from line 60 of column 6, "RDAC 118.1 includes CPU 112.1, program memory 114.1 (e.g., ROM/RAM devices for storing program instructions and variables for the operation of CPU 112.1), and cache memory 116.1 for storing data and control information related to the data stored in disk array 108. CPU 112.1, program memory 114.1, and cache memory 116.1 are connected via memory bus 152.1 to enable CPU 112.1 to store and retrieve information in the memory devices. RDAC 118.2 is identical to RDAC 118.1 and is comprised of CPU 112.2, program memory 114.2 and cache memory 116.2, all interconnected via memory bus 152.2. The RDACs 118.1 and 118.2 are preferably

interchangeable devices within RAID subsystem 100 to permit easy replacement, including hot swap, of a defective RDAC.).

Allowable Subject Matter

11. Claims 2, 3, 5, 7, and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Referring to claim 2, the prior art does not teach or fairly suggest, in light of claim 1, means for transmitting an operation request to the field apparatus based on control information when the respective communication control unit is in the normal system mode, said control information being transmitted from the respective main control unit; means for receiving response information corresponding to the operation request transmitted from the field apparatus to the same address so as to transmit the received response information to the corresponding main control unit, in the scope and context of claim 2. It should be noted that claim 2 also is objected to (see above).

Referring to claims 3 and 8, the prior art does not teach or fairly suggest, in light of claim 1, means for transmitting information to indicate the generation of failure in the first or second field buses to the corresponding main control unit when the third means for judging judges that the response information is not transmitted, in the scope and context of claim 3.

Claim 7 was previously objected to.

Referring to claim 5, the prior art does not teach or fairly suggest, in light of claim 4, means for transmitting an operation request to the normal system field apparatus via

the normal system field bus based on the control information which is transmitted from the first main control unit; means for receiving response information corresponding to the operation request which transmitted from the normal system field apparatus via the normal system field bus and for transmitting the received response information to the first main control unit, in the scope and context of claim 5.

12. Claim 9 is objected to as having non-statutory subject matter but would be allowed if amended as suggested above. Referring to claim 9, the prior art does not teach or fairly suggest first means for causing at least one of the first and second computers to transmit an operation request to the field apparatus based on control information when the at least one computer is in a normal mode, said control information being transmitted from the corresponding main control unit; second means for causing at least one of the first and second computers to receive response information corresponding to the operation request transmitted from the field apparatus to a same address, said same address being allocated to the first and second computers.

13. Claims 6, 10, and 11 are allowed.

14. The following is an examiner's statement of reasons for allowance:

Claim 6 was previously allowed.

Referring to claim 10, the prior art does not teach or fairly suggest said field bus is configured by a radio system using radio waves in a high frequency band, in the scope and context of claim 10.

Referring to claim 11, the prior art does not teach or fairly suggest said normal

and standby field buses are configured by a radio system using radio waves in a high frequency band, in the scope and context of claim 11.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

15. Applicant's arguments filed 10 August 2004 have been fully considered but they are not persuasive. Regarding Applicant's argument that Kumar does not show that first and second communication control units share a same address and that information outputted to the same address from the field apparatus is received by both the first and second communication control units, Examiner disagrees. Applicants, in fact, admit that Kumar has a same address, from page 16 of the remarks (with emphasis), "Kumar describes a system including active server 101 and standby server 102 (e.g., first and second communication control units) that have a different physical address and **a same logical address**." Applicant makes no distinction between these types of addresses in claim 1 ("...have a same address on a network...") or any other claim. Applicant cites that Kumar discloses "a server module made active is configured to receive packets with destination addresses that are both physical and logical, whereas server modules on standby is configured to receive packets with physical addresses" and reason that this teaches that standby server modules do not receive packets with logical addresses, but only receive packets with physical addresses. However, this teaching is taken out of

context and Examiner points to the whole point of logical addressing taught in line 1 of column 6, "In accordance with an embodiment of the present invention, the complicated process of the client modules detecting the changeover to a new active server module and changing the hardware and/or software accordingly may be obviated by using logical addressing scheme instead of a physical addressing scheme. As described above, physical addresses are assigned based on their physical location, for example, a slot in which a module may be connected to. Logical address, on the other hand, may be assigned to modules based on their functions. Stated differently, a particular logical address may be associated with the function the module may be performing and not with the physical location of the module." This is further supported in line 13 of column 7, "As the packets are transmitted in the bus 110, the active server module 101 coupled to bus 110 detects the logical address and receives the packets. Because the logical address is assigned based on performed function, the logical address is common to all the server modules 101, 102, 103, standby or active, that are coupled to the bus 110, but enabled on the active server module. When there is a failure of the active server module 101, the standby module 102 assumes the role of the active server module and receives packets that use the same logical addresses of the previous active server module." Finally, Kumar distinguishes between reception and response, from line 43 of column 6 (with emphasis), "The client modules 121, 122, 123 communicate with the active server module 101 using logical addresses while the **standby modules 102, 103 remain unresponsive to the logical addresses** until such time one of the modules become activated to take over the role of active server module. Once activated, the

standby module that assumes the role of the active server module is configured to receive packets with destination addresses that are both physical and logical." Stated differently, standby modules "receive" the packets (or at the very least the "information" as to the destination logical address outputted to that same logical address), but simply ignore or do not process the payload of the packets of the corresponding logical address while it is designated as a standby module. It is not until the role of the standby module is changed to active that that module processes packets corresponding to the logical address. This is further supported in line 66 of column 6 (with emphasis), "For example, when the client module 121, 122, 123 receives a packet with VP/VC address from the networking system, client module 121, 122, 123 refers to the lookup table 125, 126, 127 to **determine the associated logical address which is to be used in a header of the packet** 200 (see FIG. 2). With the logical address in the header, client module 121, 122, 123 **loads the packet 200 into the bus 110 (see FIG. 1) for transmission**. The logical address is based on the destination module's function. Thus, for example, where the received packets of the client module requires the packets to be reassembled into information, the header of the packets will contain the logical address of the module that performs the function. As the packets are transmitted in the bus 110, the **active server module 101 coupled to bus 110 detects the logical address** and receives the packets. Because the logical address is assigned based on performed function, **the logical address is common to all the server modules 101, 102, 103, standby or active**, that are coupled to the bus 110, but enabled on the active server module. When there is a failure of the active server module 101, the standby

module 102 assumes the role of the active server module and receives packets that use the same logical addresses of the previous active server module." These citations clearly indicate that packets containing logical addresses are output to a common bus between the server modules, it is then reliant on the server modules themselves to detect information of the packets to determine if they should respond to the packet, thereby disclosing reception based on a common address.

Regarding Applicant's argument regarding the patentability of claim 4 over DeKoning et al., while the grounds of the rejection applied have not changed, the substance of the rejection has changed to reflect the interpretation that Applicant is merely claiming, substantively, two identical systems, one of which operates as a standby to the other.

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gabriel L. Chu whose telephone number is (571) 272-3656. The examiner can normally be reached on weekdays between 8:30 AM and 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W. Beausoliel, Jr. can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gc

ROBERT BEAUSOLIEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100